

**Data Technician**

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| Course Date: 16/12/24 |
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# Day 1: Task 1

Please complete the below boxes on commons laws and regulations that must be followed when working with customers data, use the below bulleted list to support your answers.

* What is it
* Why is it important
* Provide a real-world example of how you can follow it
* How does it impact working with data
* What could happen if you breached it

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| Data Protection Act | **What is it**  The Data Protection Act 2018 is a UK law that governs how data is used by organisations, ensuring it's handled fairly, lawfully, and securely to protect individuals' privacy. It sets out strict rules called data protection principles, including only collecting necessary data for specified purposes, keeping it accurate and secure, and not keeping it for longer than needed. The Act also gives individuals rights, such as the right to access their own data.  **Why is it important and impact when working with data**  It is important because it protects people's right to privacy and holds data controllers accountable by ensuring that personal data is utilised legally, openly, and securely.  **Example:**  One such example is hospitals keeping patient information like medical records and test results. Under the Data Protection Act, the hospital should only collect the details needed for care, keep them safe and secure, make sure only the right staff can see them, and allow patients to access their own records if they ask.  **What could happen if it is breached**  If the Data Protection Act is violated, personal data may be exploited or made public. Loss of trust, public complaints, legal action, and hefty fines could result from this. Additionally, it can harm an organisation's reputation and influence people's attitudes towards giving their data. |
| GDPR | **What is it**  The UK GDPR, or United Kingdom General Data Protection Regulation, is the UK's version of data protection law, governing how personal data is collected, processed, and shared. It complements the Data Protection Act and sets out principles for data handling and rights for individuals whose data is collected. The UK GDPR requires data to be handled lawfully, fairly, and transparently and specifies individuals' rights, such as the right to access and have their data erased.  **Why is it important**  With a worldwide impact on privacy standards, GDPR gives people control over their data and guarantees responsibility and openness in data processing.  **Real -world example**:  Before utilising cookies to track user behaviour, a website must obtain explicit consent from users and provide a way for them to revoke their consent.  **How does it impact data**  Data Collection   * Organisations must have a clear reason (lawful basis) for collecting data. * They can’t collect unnecessary information ("data minimisation").   Data Storage   * Data must be stored securely (e.g., encrypted, password-protected). * Can only be kept for as long as it’s needed.   Data Use   * Must only be used for the purpose it was collected. * Cannot be shared with third parties without consent.   Data Rights   * Individuals have rights like   + Accessing their data ("Subject Access Request").   + Asking for it to be corrected.   + Asking for it to be deleted ("Right to be Forgotten").   Accountability   * Companies must show how they are complying with GDPR (e.g., policies, audits, training). |
| Freedom of Information Act | **What is it?**  The Freedom of Information Act (FOIA) is a law that gives the public the right to request access to information held by public authorities, such as government departments, councils, and public bodies. Its aim is to promote transparency and accountability by allowing citizens to see how decisions are made and how public money is spent.  **Why is it important?**   * Transparency: Guarantees that public entities and the government are fair about their activities. * Accountability: Aids in stopping the abuse of authority and public funds. * Trust: Increases public trust in organisations by facilitating easier access to information.   An informed society enables individuals, scholars, reporters, and institutions to base their decisions on the truth.  **Real world example:**  A local resident asks the council how much money has been used for fixing potholes in their area.  **How does it impact working with data?**  Data sharing rules: Workers who handle public data must be aware of what can and cannot be shared.   * Record-keeping: Promotes appropriate documentation, as information can be requested at any moment. * Openness vs. confidentiality: Professionals must strike a balance between transparency and protecting sensitive or private information. * Data management systems: organisations frequently require structured methods to swiftly discover and release requested data.   **What could happen if you breached it?**   * Legal consequences: Failing to comply can result in investigations, fines, or legal action. * Reputational damage: The public may lose trust in the organisation. * Operational impact: Mishandling sensitive data (e.g., accidentally releasing private information) could harm individuals and lead to stricter oversight. * Financial cost: Compensation claims, penalties, or the cost of remediation. |
| Computer Misuse Act | **What is it**  The Computer Misuse Act 1990 is a UK law designed to protect computer systems and data from unauthorised access or malicious use. It makes activities like hacking, spreading malware, or stealing data illegal.  **Why is it important**   * Protects individuals, businesses, and governments from cybercrime. * Helps keep personal and sensitive data safe. * Ensures trust in digital systems and online services. * Provides legal consequences for harmful or unethical computer use.   **Provide a real-world example of how you can follow it**  If you work in IT support at a company, you might have access to employees’ accounts.   * Only accessing accounts you are authorised to access. * Using strong passwords and security practices * Reporting suspicious activity instead of trying to investigate it yourself.   **How does it impact working with data**   * You must only access data that you are authorised to view. * Personal and sensitive data must be handled securely and legally. * Any misuse, even accidentally, can count as an offence under the act. * Encourages good practices like encryption, password protection, and secure data sharing.   **What could happen if you breached it**   * Legal consequences: fines or imprisonment (depending on the severity). * Job consequences: loss of employment or being banned from certain professions. * Reputation damage: losing trust from employers, customers, or the public. * Financial damage: compensation claims if the breach harms individuals or companies. |

# Day 2: Task 1

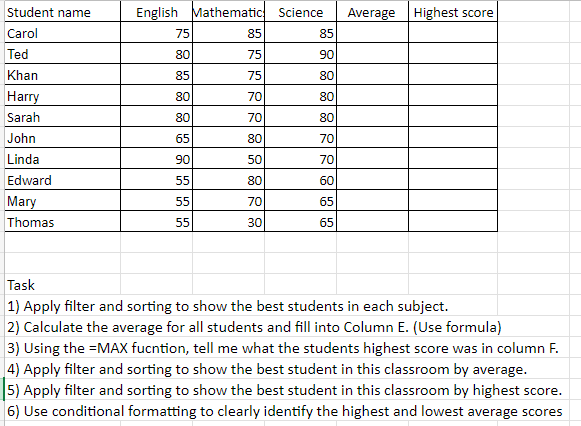
Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste a print screen into the provided boxes below:

1. In the sheet ‘retail\_sales\_dataset’ add all available data between columns A –J into a ‘table’
2. Using the ‘sort’ function, sort ‘Age’ to ‘largest to smallest’
3. Using the ‘SUM’ function, show me the commission total in cell ‘L10’
4. Using the ‘AVERAGE’ function, show me the average commission in cell ‘L11’

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| Print screen 1 |  |
| Print screen 2 |  |
| Print screen 3 |  |
| Print screen 4 |  |

# Day 2: Task 2

Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste print screens into the provided box below:



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| Print screen 1 | Task 1:  1.english (sorting from best to least)    2. Mathematics    3. science    Task 2:    Task 3:    Task 4: Best by average    Task 5: Best by score    Task 6: |

# Day 2: Task 3

Using the skills developed today, have some fun with the data set you have imported. Paste your work below and enjoy!

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| Print screen 1 | 1. Imported “airline\_flights\_data” data set from kaggle and transformed it into table.      1. Sorted from cheapest to highest price.      1. Using unique function      1. SUMIF     . 5.COUNTIF  6. MIN, MAX FUNCTION    7. FILTER ALL FLIGHTS FROM DELHI |

# Day 3: Task 1

Please download the dataset ‘Day\_3\_Task\_1\_Bike\_Sales\_Pivot\_Lab.xlsx’ and the lab instructions.

Do not worry if you do not complete the lab, just working with data and playing with the pivot table will be good experience.

Please paste your final pivot table below and complete the reflection questions:

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| Print screen 1 | **Part 1:**  Step 1: Create pivot table    Step 2: Review pivot table  Step 3: Rearrange the pivot table.    Step 4: Refine pivot table  Step 5: Revise pivot table    **Part 2:**  Step1: Create pivot table chartStep 2: Analyse the chart data |
| In which markets does Germany have customers? | Germany is represented by the purple.  Germany has a customer are adult for both genders |
| What country has sales in all markets? | Australia |
| What are the most profitable markets by country, age group, and gender? | Since the chart shows stacked bars (heights = sales volume/profit):   * United States (Orange):     Strongest in Adults (35–64), Female (F) and Male (M).  This is their most profitable market.   * Australia (Blue):   Highest in Young Adults (25–34), Female (F).  Also contributes in Youth (<25).   * France (Teal):   Appears consistently in Youth (<25), Male (M) and Young Adults (25–34), Male (M).  Strongest in Young Adults (25–34), Male (M).   * Canada (Pink):   Found in Young Adults (25–34), Female (F) and Male (M).  Strongest in Young Adults (25–34), Female (F).   * Germany (Purple):   Only appears in Adults (35–64).  Strongest for Female (F).   * United Kingdom (Light Blue):   Present in Young Adults (25–34), Female (F) and Adults (35–64), Male (M).  Strongest in Young Adults (25–34), Female (F) |
| Any other findings? | * Adults (35–64, Female) is the largest market overall (tallest stacked bar). * The United States dominates the Adult segment, especially females. * Youth (<25) has the smallest overall sales compared to other age groups. * Canada and Germany are niche players (only appear in a few segments). * Australia and France are stronger with younger markets (youth & young adults), while Germany and U.S. focus on adults. |

# Day 3: Task 2

The dataset below tracks the sales performance of different products in various counties in England. Please paste the dataset into a blank Excel workbook. Your task is to:

* **Create a Pivot Table** to summarise the data by county and product.
* **Use the SWITCH function** to categorise products based on their sales volume.

#### **Dataset:**

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| **County** | **Product** | **Sales Volume** |
| Yorkshire | Laptops | 500 |
| Yorkshire | Smartphones | 200 |
| Cornwall | Laptops | 700 |
| Cornwall | Printers | 400 |
| Lancashire | Smartphones | 150 |
| Lancashire | Laptops | 600 |
| Essex | Printers | 800 |
| Essex | Smartphones | 300 |
| Durham | Laptops | 250 |
| Durham | Printers | 300 |
| Greater Manchester | Smartphones | 600 |
| Greater Manchester | Laptops | 400 |

#### **Step 1: Create a Pivot Table**

* Select the dataset (columns A to C).
* Insert a pivot table to summarise the data by **County** in the rows and **Products** in the columns. Use **Sales Volume** as the value to be summarised.

#### **Step 2: Use the SWITCH Function**

In a new column next to your data, use the SWITCH function to categorise products based on **Sales Volume** as follows:

* + For sales greater than 600: **"High"**
  + For sales between 300 and 600: **"Medium"**
  + For sales less than 300: **"Low"**

**SWITCH Function Example**:

=SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")

* Apply this formula to each row, and check if the products are categorised correctly.

#### **Submission:**

* A completed Pivot Table summarising sales by county and product.
* A new column in the dataset categorising products by sales volume using the SWITCH function.
  + Please paste your completed work below

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| Print screen 1 |  |

# Day 3: Task 3

Please download the dataset ‘Day\_3\_Task\_3\_Bike\_Sales\_Visualisations\_Lab.xlsx’ and the the lab instructions. Do not worry if you do not complete the lab, just working with data and playing with the charts will be good experience.

Please paste your results below:

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| Print screen 1 | **Part 1:**  **Part 2:** **Part 3:** |

# Day 4: Task 1

You have been asked to deliver your analysis findings to the board of directors, with your analysis you have identified that customers are leaving your company at the 12-month point, this is typically when they receive their renewal price.

Conduct research and complete the below questions:

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| How would you prepare for the delivery? | Understand Your Audience: Board members may be unfamiliar with the technical aspects of your analysis. Customise the presentation to emphasise key findings.  Create a Clear Narrative: Structure your presentation to tell a tale, starting with the problem, then presenting your analysis and concluding with actionable advice.  Anticipate Questions: Prepare for any enquiries about data sources, analysis methods, and the feasibility of proposed modifications. |
| What tools would you use for the delivery? | * Presentation Software: Use tools like Microsoft PowerPoint or Google Slides to create a professional slide deck. * Data Visualization Tools: Incorporate visuals using tools such as Tableau, Microsoft Power BI, or Looker Studio to present data effectively. * Remote Presentation Tools: If presenting remotely, ensure familiarity with platforms like Zoom or Microsoft Teams. |
| What is prospecting and why would you complete this before your delivery? | Prospecting involves identifying and understanding potential areas for improvement or growth. Completing prospecting before your delivery allows you to:   * Identify Key Issues: Pinpoint specific factors contributing to customer churn. * Develop Targeted Solutions: Propose changes that address identified issues directly. * Demonstrate Strategic Thinking: Show the board that you've considered various aspects before making recommendations. |
| Tell me best practices for public speaking and providing updates to senior leaders | Best Practices for Public Speaking to Senior Leaders  * Start with the Bottom Line: Write a brief executive summary that highlights the important themes. * Be Concise and Focused: Make your presentation clear and to the point, avoiding unnecessary details. * Use Data Wisely: Present data that supports your story without overwhelming the audience with too much information. * Engage Your Audience: Encourage questions and conversations to keep the board engaged. |
| What will you show the board in your delivery? | * Key Findings: Present the most significant findings from your investigation. * Visualisations: Use charts and graphs to show data trends and patterns. * Recommendations: Make actionable suggestions to remedy the highlighted concerns. * Impact Assessment: Discuss the potential effects of suggested changes on customer retention and business performance. |
| How will you articulate the changes that are needed? | * Be specific. Clearly outline the necessary modifications. * Provide Rationale: Explain why these changes are required, backed up by facts and analysis. * Outline Implementation Steps: Explain how the modifications will be executed, including timelines and accountable parties. |
| Provide a list of online resources and videos that will support your preparation for public speaking | <https://www.youtube.com/watch?v=Ns_z4wEtdRM> |
| Evaluate tools that provide visualisation.  Tell me what they are.  Tell me what you would choose when delivering your presentation and why | * Tableau: Offers powerful data visualisation capabilities, suitable for complex datasets. Best for in-depth data analysis and visualisation. * Microsoft Power BI: Integrates well with other Microsoft tools and provides robust visualisation options. * Microsoft Power BI: Ideal for creating interactive and detailed visualisations. * Looker Studio: Useful for building customisable dashboards. * Tableau:   Will choose the tool that best fits your data complexity and the level of interactivity required for your presentation. |

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| **Course Notes** |

It is recommended to take notes from the course, use the space below to do so, or use the revision guide shared with the class:

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| **Additional Information** |

We have included a range of additional links to further resources and information that you may find useful, these can be found within your revision guide.

**END OF WORKBOOK**

**Please check through your work thoroughly before submitting and update the table of contents if required.**

**Please send your completed work booklet to your trainer.**